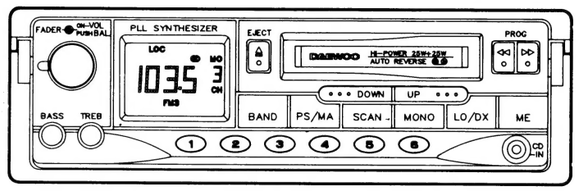
DAEWOO

SERVICE MANUAL

* **AKF-9255**

(without Dolby, AMS)

QUARTZ PLL SYNTHESIZER
CASSETTE RECEIVER



• SPECIFICATIONS

Audio Section

Maximum outputZ power . . 25 watts per channel into 4 ohms (1 kHz)
Rated output power . . . . . 16 watts per channel into 4 ohms (1kHz, 10% total harmonic distortion)
Load impedance . . . . . 4 ohms
Controls
BASS/TREBLE . . . . . ±10 dB at 100Hz/10 kHz

Tape section

Track format . . . . . 4-track/2-channel system
Tape speed . . . . . 4.8 cm/sec.
Wow/flutter . . . . . 0.15% nominal (WRMS)
Signal to noise ratio 50dB

Tuner section

(FM): AKF-9255
Tuning range . . . . . 87.5 to 107.9 MHz at U.S.A.
. . . . . 87.5 to 108.0 MHz at Europe

Usable sensitivity (30 dB S/N)
Mono . . . . . 10 dBμ (3.2μV/75 ohms)
Signal to noise ratio (at 60 dBμ)
. . . . . 60 dB

(AM): AKF-9255
Tuning range . . . . . 530 to 1710 KHz at U.S.A.
522 to 1620 KHz at Europe
Usable sensitivity (20 dB S/N)
. . . . . 28 dBμ(31.6μ/750 ohms)
Signal to noise ratio (at 60 dBμ)
. . . . . 60 dB

General

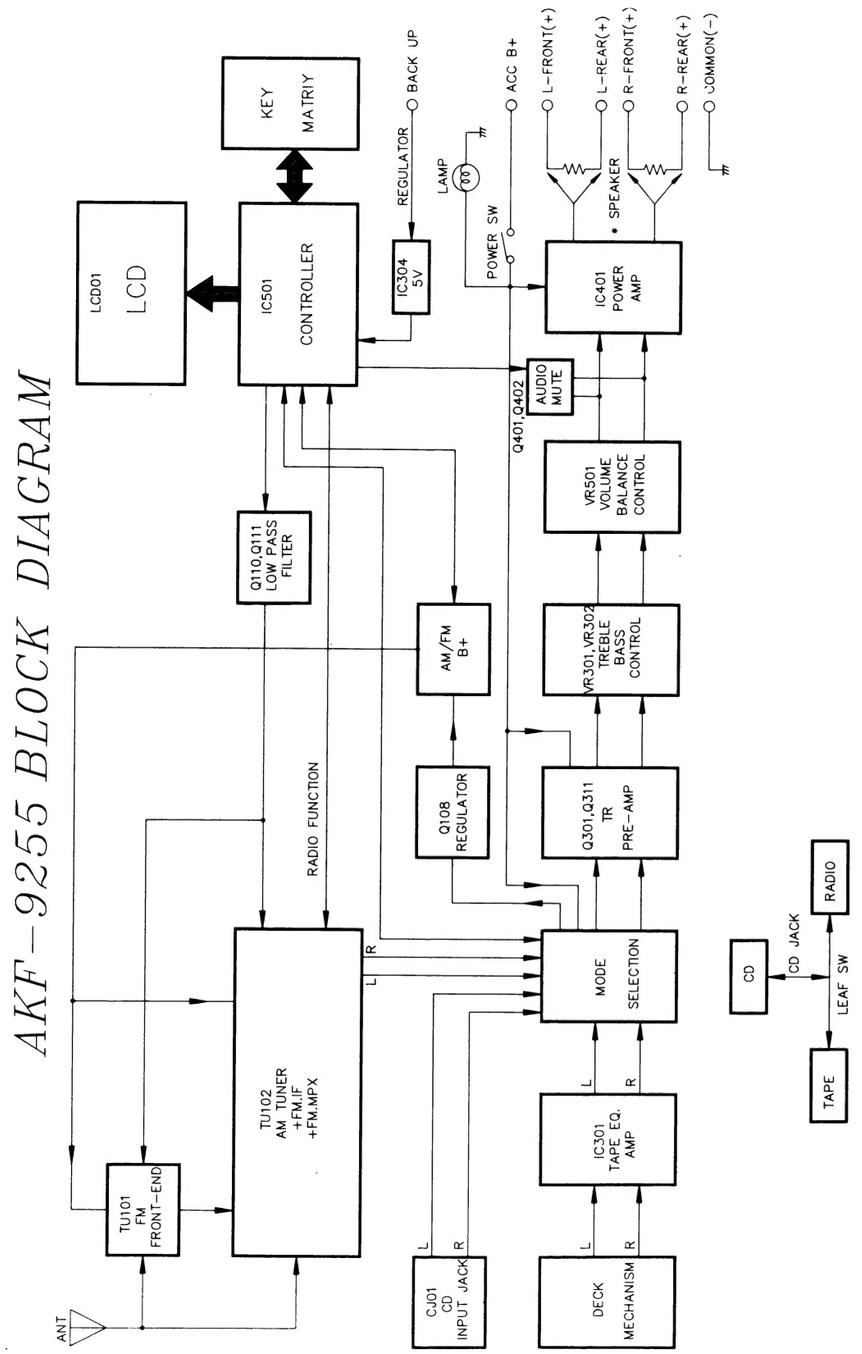
Power requirements . . . . . DC 12.0V/Rated; 14.4V (Usable: 10.8-15.6V) negative ground
Current consumption . . . . . 7A Maximum
Dimension (W × H × D) . . . . 188 × 58 × 186mm
$7\text{-}3/8'' \times 2\text{-}1/4'' \times 7\text{-}5/16''$
chassis size . . . . . 182 × 53 × 153mm
$7\text{-}3/16'' \times 2\text{-}1/8'' \times 6''$
Weight (net) . . . . . 1.8 Kg

• Design and specifications subject to changes without notice for improvements.

CAUTION

1. Do Not Use Endless Tapes
   If an endless tape is used with this unit, the tape will not be wound up properly inside the cassette shell and, as a result, it will not be possible to use it again.
   Also, this unit cannot eject a tape which has been inserted with its reverse side facing up.
   (At this case, refer to How to hook out the endless tapes.)
2. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors & resistors.

1. BLOCK DIAGRAM (AKF-9255)

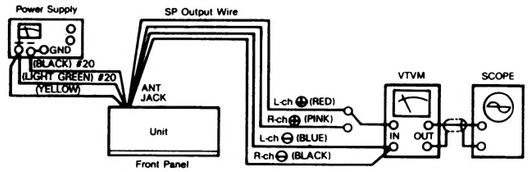


2. ADJUSTMENT

2-1. Tape Adjustment

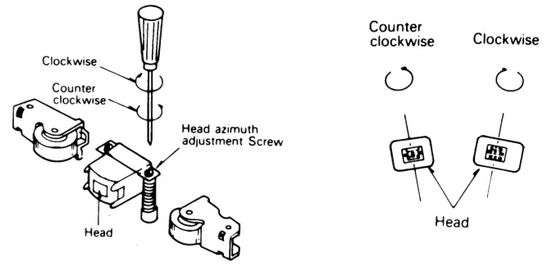
Note: 1. Clean the playback head before adjustment.
2. Prepare the test tape MTT-114
3. TREBLE, BASS & BALANCE ..... Mechanically center position
4. Connections are shown in Fig. 2-1.

Fig. 2-1



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT
1.	Head azimuth adjustment	MTT-114	L or R-ch SP Output Wire VTVM & Scope	Playback MTT-114	Turn the azimuth screw to obtain maximum output on both FWD and REW PLAY. (See Fig. 2-2)

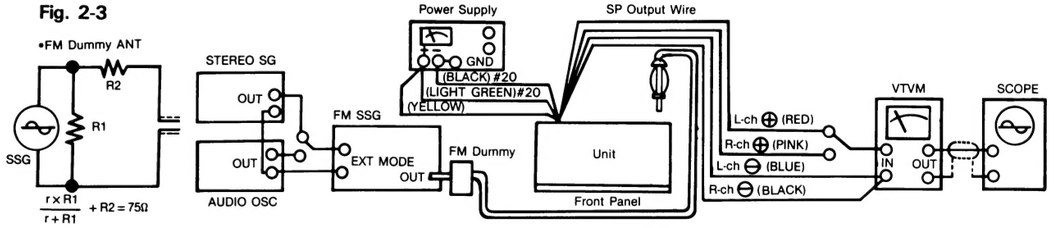
Fig. 2-2



2-2. FM Adjustment

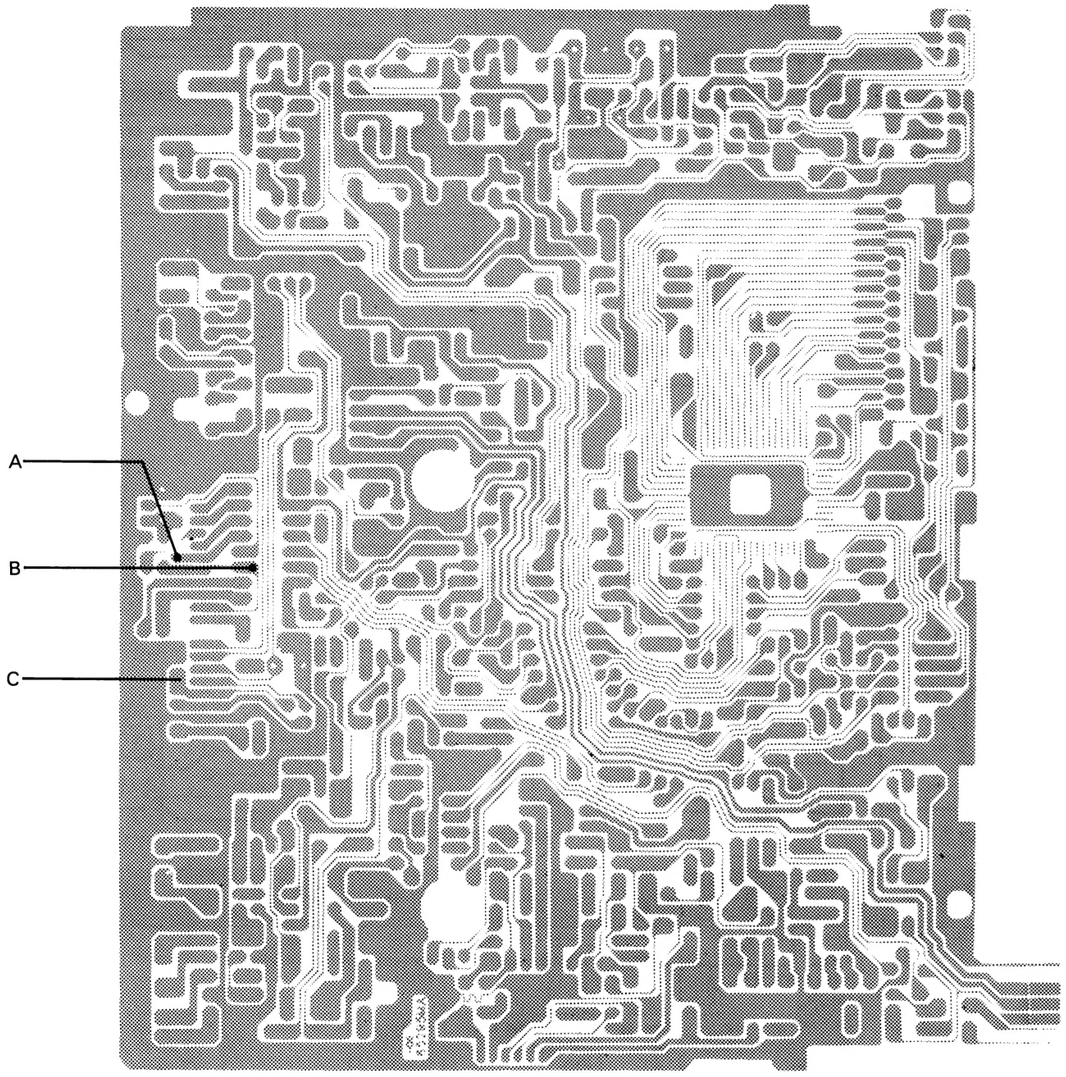
Note: 1. BAND ..... FM
2. TREBLE BASS & TONE ..... Mechanically center position
3. Connection are shown in Fig. 2-3

Fig. 2-3



STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARK
1.	IF Coil Adj.	98.1 MHz ANT Input 12dBμ, 1 kHz (100% MOD., FM SSG)	ANT Jack & Ground	L-ch SP Output wire VTVM & Scope	IFT Coil Front-end, TU101	Max. Adjust. Above and Below	
2.	Discriminator Coil adj.	98.1 MHz ANT Input 60dBμ. 1KHz(100% MOD.), NO. MOD., FM SSG.	Same as above	Between Point 13 pin and 17 pin of IC01, Tuner PC Board DC Volt Meter	T105 (IC01, Tuner PC Board) See Fig.2-6	DC 0V ± 30mV	• Between point 13 pin and 17 pin of IC01.(Across the R13) • ADJ T05 until the indication of DC volt meter becomes OV.
3.	Separation Adj.	98.1 MHz ANT Input 60dBμ, 1KHz(100% MOD.) FM SSG. Pilot 19KHz (10% MOD.), STEREO SG.	Same as above	L-ch SP Output Wire VTVM & Scope		Read this indication on VTVM	• Adjust RV 02 to have maximum seperation of L/R.
				R-ch SP Output Wire VTVM & Scope	RV 02 (IC01 Tuner PC Board) See Fig. 2-6	Confirm L-CH-R-CH	
4.	SD Adji.	98.1 MHz ANT Input 25dBμ, 1KHz (30%, MOD.) FM SSG.	Same as above	Between point A & Ground of Main Board DC Volt Meter See Fig. 2-4	RV03 (IC01, Tuner PC Board) See Fig.2-6	DC 2.5V ± 1V	• Adjust RV03, applying DC5V to point B of main Baord. See Fig. 2-4

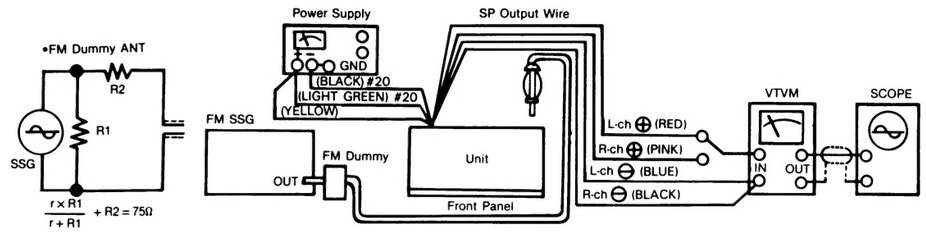
Fig. 2-4 Pattern Side of MAIN P.C. Board



2-3. AM Check and Adjustment

Note: 1. BAND . . . . . AM
2. TREBLE BASS & TONE . . . . . Mechanically center position
3. Connection are shown in Fig. 2-5.

Fig. 2-5

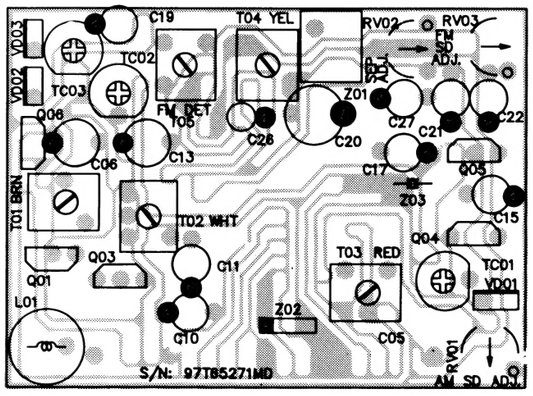


See Fig. 2-6

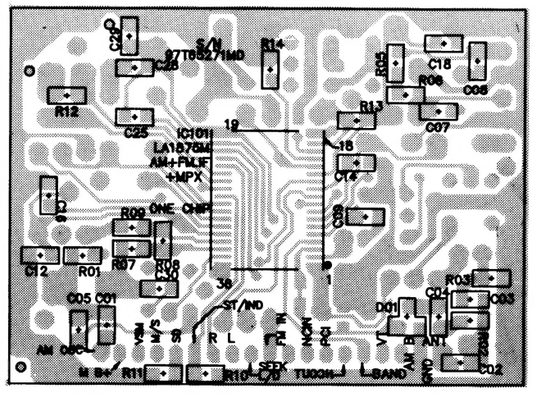
STEP	SUBJECT	FEED SIGNAL FROM	FEED SIGNAL TO	MEASURE OUTPUT	ADJUST	ADJUST FOR	REMARK
1.	LOW END freq. Tuning Adj.	LOW END FREQ. ANT input, AM SSG.	–	L or R-ch SP Output Wire VTVM & Scope	T03 Tuner PC Board	MAX. Output	• Repeat procedures as stated in subject in step 1 & 2
2.	HIGH END freq. Tuning Adj.	HIGH END FREQ. ANT input AM SSG.	–	Between point C & Ground of Main Board DC Volt Meter	TC01 Tuner PC Board	8.0V	
3.	620 kHz (10 kHz Step) RF Adj.	620 kHz ANT Input, 30 dBμ 400Hz (30% MOD.),	ANT Jack & Ground	L or R-ch SP Output wire VTVM & Scope	T01, T02, T04 Tuner PC Board	Max. Output	• Repeat procedures as stated in subject in step 3 & 4
4.	1490 kHz (10 kHz Step)	1490 kHz ANT Input 30dBμ 400Hz (30% MOD.),	Same as above	Same as above	TC02, TC03 Tuner PC Board	Max. Output	
5.	SD Adj.	1010 kHz ANT Input 35dBμ 400Hz (30% MOD).	Same as above	Between point A & Ground of Main Board DC Volt Meter	RV01 Tuner PC Board	DC 2.5V ± 1V	Adjust RV01, applying DC 5V to point B of Main Board See Fig. 2-4

Fig. 2-6 AKF-9255 TUNER P.C. Board.

1) Top Pattern + Top Parts

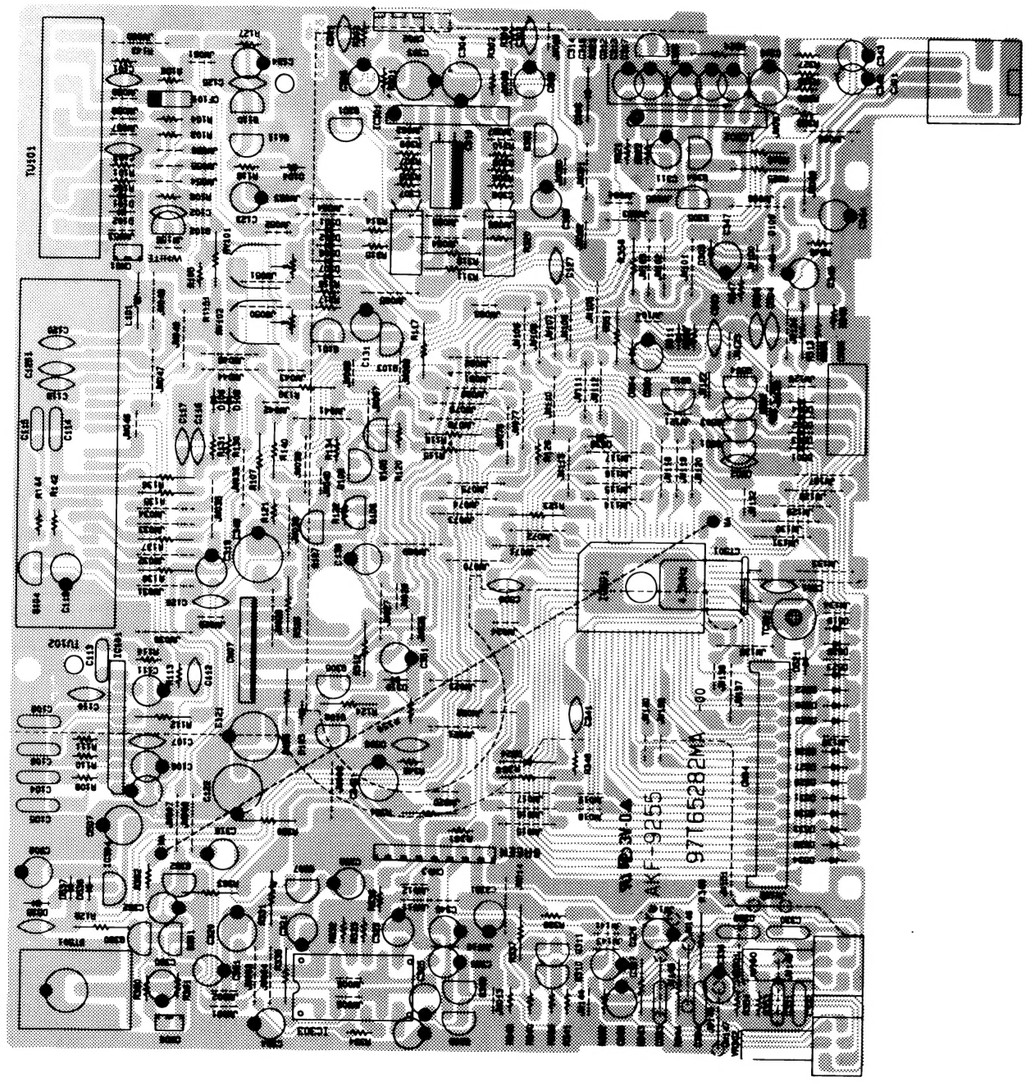


2) Bottom Pattern + Bottom Parts



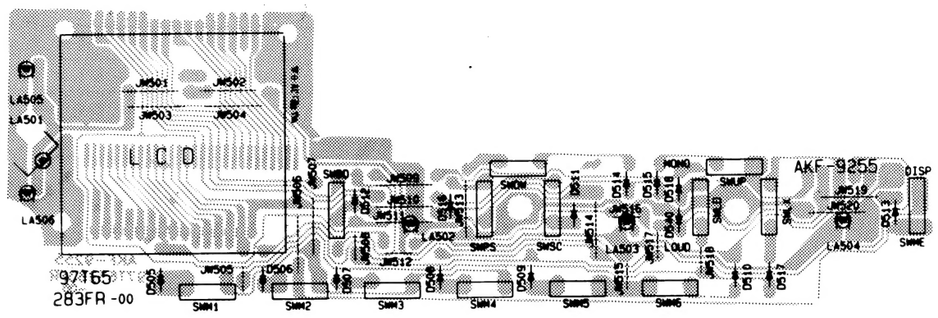
3. PARTS LOCATION ON BOARD

3-1. Main Board (Parts Side): AKF-9255



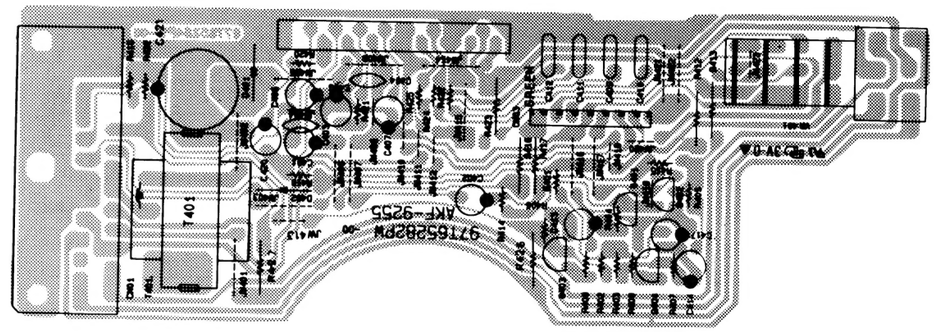
3-2. Front P.C. Board

PARTS SIDE



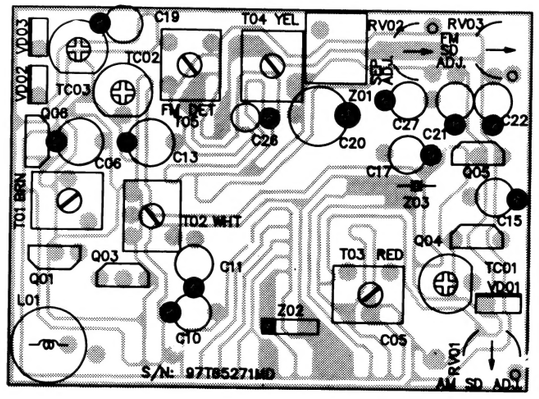
3-3. POWER P.C. Board

PARTS SIDE

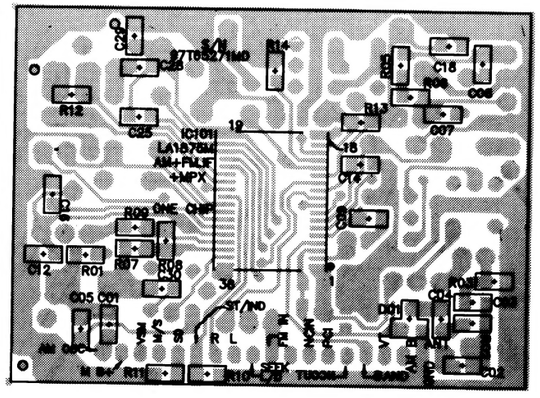


3-4. TUNER P.C. Board.

1) Top Pattern + Top Parts

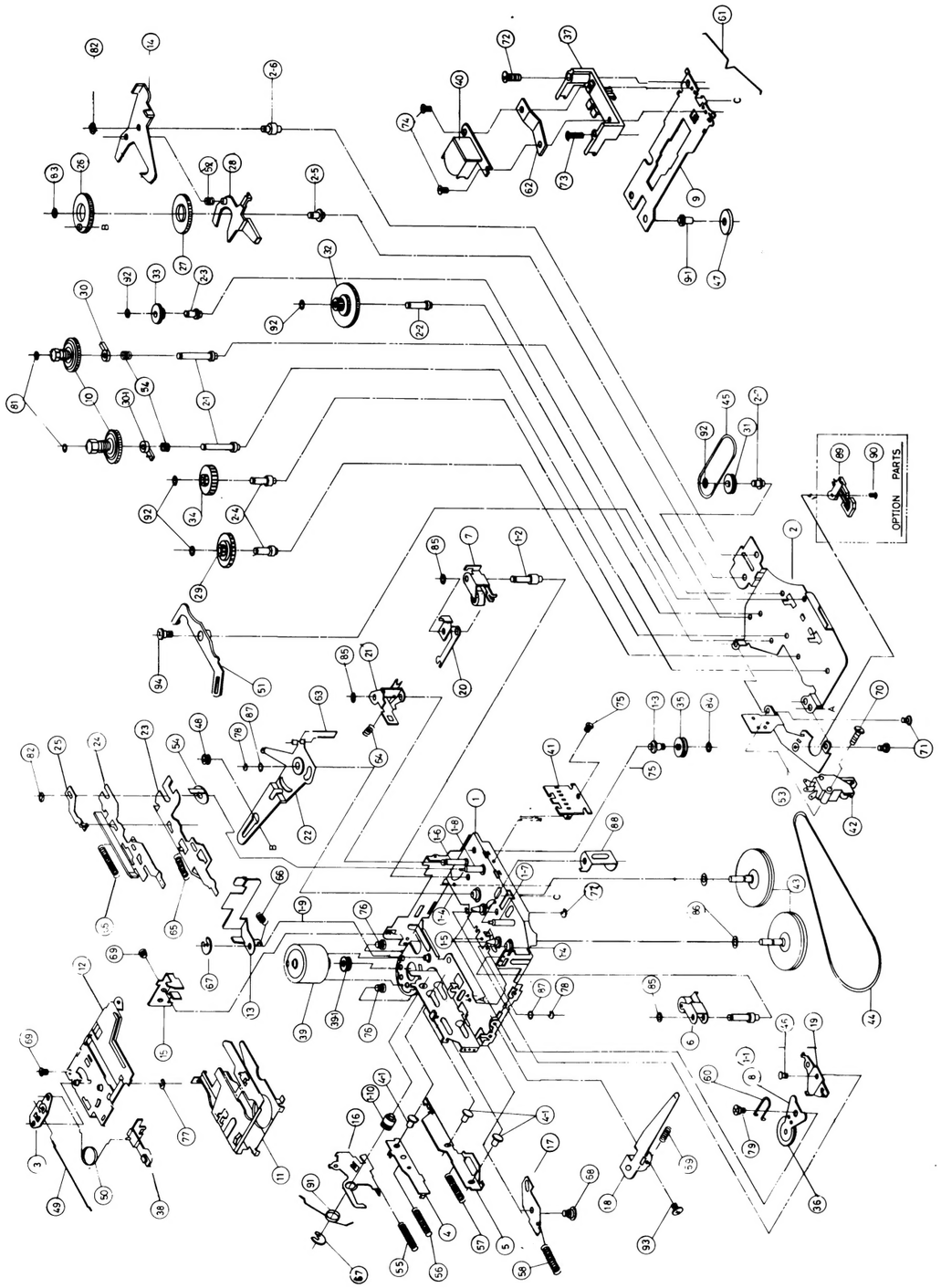


2) Botton Pattern + Bottom Parts



4. EXPLODED VIEW and PARTS LIST

4-1. DECK MECHANISM (SM-909P)



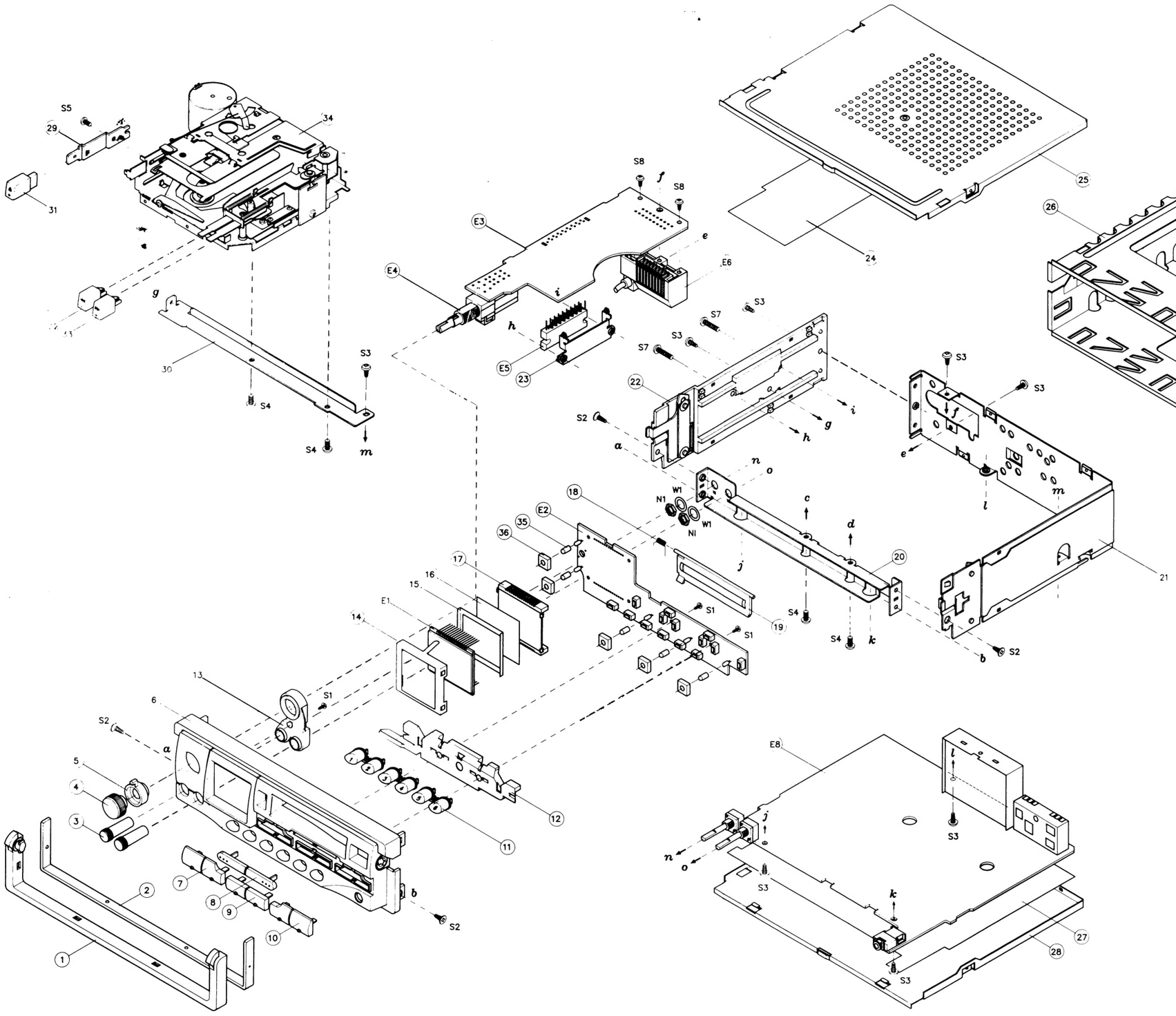
SM-909P (N) PARTS LIST

NO.	STOCK NO.	DESCRIPTION	REMARK	Q'TY
1	R416A1	ASS'Y MAIN CHASSIS-2		1
1-1	0930	SHAFT PINCH ROLLER (R)		1
1-2	0929	SHAFT PINCH ROLLER (L)		1
1-3	0922	SHAFT MIDDLE PULLEY		1
1-4	R101BO	METAL CAPSTAN (B-2)		2
1-5	0920A0	PIN GUIDE (B)		2
1-6	9928	SHAFT F.R. LOCK LEVER		1
1-7	1694	SHAFT F.R. LEVER "B2"		1
1-8	3194A0	SHAFT NOVEMENT LEVER (D)		1
1-9	RF09A0	SHAFT NOVEMENT ARM (B)		1
1-10	RF10A0	SHAFT CASSETTE LOCK LEVER		1
2	R406C1	ASS'Y CHASSIS GRAR (P)		1
2-1	RP05A0	SHAFT REEL-2		2
2-2	RP01A0	SHAFT FEED GRAR A-2		1
2-3	RP02A0	SHAFT FEED GEAR B-2		1
2-4	RF03A0	SHAFT FEED GEAR C-2		2
2-5	RF06A0	SHAFT PROGRAM CAN-2		1
2-6	RF07A0	SHAFT PROGRAM CAN LOCK LEVER		1
2-7	RF04A0	SHAFT DRIVING PULLEY-2		1
3	2365	ASS'Y EJECT LEVER (C)		1
3-1	RF11A0	SHAFT EJECT LEVER C-2)		1
4	2773	ASS'Y EJECT LEVER (A)		1
4-1	0942	SHAFT EJECT LEVER		3
5	R417B1	ASS'Y EJECT LEVER "B-3"		1
6	2003	ASS'Y PINCH ROLLER ARM (R)		1
7	2002	ASS'Y PINCH ROLLER ARM (L)		1
8	R409A1	ASS'Y PLAY ARM-2		1
9	R411B1	ASS'Y BASE HEAD-5		1
9-1	1961	SHAFT HEAD BASE "B2"		1
10	3109	ASS'Y REEL		2
11	RP23B0	HOLDER CASSETTE (B-2)		1
12	RP21B0	ARM HOLDER CHASSIS (B-2)		1
13	RP20A0	ARM NOVEMENT (B)		1
14	RI03A0	LEVER PG CAM STOP		1
15	RP24A0	GUIDE EJ LEVER (B-2)		1
16	RP19B0	LEVER CASSETTE LOCH (B-2)		1
17	RP26A0	LEVER HEAD SLIDE (C)		1
18	RP25A0	LEVER HEAD SLIDE (C)		1
19	RP01B0	LEVER PLAY IDLEY		1

NO.	STOCK NO.	DESCRIPTION	REMARK	Q'TY
20	0886A0	LEVER PROGRAM (B-2)		1
21	0699	LEVER F.R. LOCK		1
22	RP17B0	ARM PROGRAM (B-2)		1
23	0884A0	LEVER REV (B-2)		1
24	0883	LEVER FF		1
25	3247	LEVER PROGRAM (A4)		1
26	0918	CAM PROGRAM		1
27	0915	GEAR PROGRAM SENSOR CAN		1
28	0916	SENSOR P CAN		1
29	RJ07A0	GEAR FEED (D)		1
30	RI10A0	SENSOR REEL "C"		1
30-1	0907A0	SENSOR REEL "D"		1
31	RI01A0	PULLEY DEIVING-2		1
32	RI01A0	GEAR FEED A-2		1
33	RJ05A0	GEAR FEED (B)		1
34	RJ06A0	GEAR FEED (C)		1
35	0913	PULLEY MIDDLE		1
36	0906	GEAR PLAY		1
37	3287	HOLDER GUIDE (B)		1
38	RI07A0	EJECTOR (B-2)		1
39		MOTOR		1
39-1		PULLEY MOTOR		1
40		HEAD P		1
41	2004	ASS'Y S/W SLIDE		1
42		SWITCH QUICK ACTION		1
43	1841	ASS'Y FLYWHEEL		2
44	0974	BELT MAIN 1TX122		1
45	0975	BELT T/U 1.2TX20.5		1
46	0041	SHAFT PLAY IDLER		1
47	RI06A0	ROLLER SHAFT HEAD BASE		1
48	0932	COLLAR PROGRAM CAM		1
49	0962	BOD EJECT		1
50	0966	SPRING EJECTOR		1
51	RI02B0	LVR P SENSOR (C)		1
52	0949	SPRING SENSOR TENSION		1
53	2733A0	ANGLE SWITCH (b)		1
54	RS02B0	SPRING REEL D		2
55	RS05A0	SPRING CASSETTE LOCK LEVER (B)		1
56	0957	SPRING EJECT LEVER		1

NO.	STOCK NO.	DESCRIPTION	REMARK	Q'TY
57	0965	SPRING EJECT LEVER (B)		1
58	RT07A0	SPRING HEAD SLIDE LEVER (B-2)		1
59	RS03A0	SPRING HEAD STOPPER		1
60	RT01A0	SPRING PLAY GEAR ARW (B)		1
61	RT02A0	SPRING PINCH ROLLER		1
62	3290A0	PANEL HEAD		1
63	0953	SPRING SWITCH		1
64	0958	SPRING LOCK LEVER		1
65	1835	SPRING F.R. LEVER		1
66	RS04A0	SPRING NOVEMENT ARM (B)		1
67	LW05A0	E-RING 0.4TI2X 6.5		2
68	RR01A0	SCREW COLLAR A-2		1
69	2765	SCREW CAMERA T/TITE M2X3		2
70	1160	SCREW BH T/TITE M2X8		1
71	0971	SCREW CAMERA M2X3		2
72	3289	SCREW PH M3X11		1
73	3288	SCREW CAMERA W/H M2X 9.8		1
74	1957	SCREW CAMERA M2I5		2
75	1176	SCREW BH T/TITE M2X3		1
76	3197	SCREW PH M2X2.7		2
77	0350	E-RING 0.4TX1.5X4		2
78	2239	E-RING (SPECIAL) 0.3TX1.5X3.2		2
79	3195	SCREW COLLAR (C)		1
80	RP40A0	PLATE PROGRAM		1
81	0960	P.S.W (C) 0.4TX1.6X3.2		2
82	2931	P.S.W. (C) 0.5TX1.6X5		2
83	0969	P.S.W. (C) 0.25TX1.2X4		1
84	0091	P.S.W (C) 0.35TX1.2X3.5		1
85	0966	P.S.W. (C) 0.3TX1.6IX5		3
86	0967	P.S.V 0.25TX1.85I5		2
87	2933	P.S.V 0.35TX1.85X3.2		2
88	1830	LEVER F.R. LOCE (B)		1
89		SWITCH NUTE	(OPTION)	1
90	3008	SCREW VH M1.7X4	(OPTION)	1
91	RT03B0	SPRING CASSETTE EJECT (B-2)		1
92	0663	P.S.V (C) 0.25TX1.2X3		5
93	RR07A0	SCREW FH T/TITE 2X4		1
94	RR02A0	SCREW COLLAR B-2		1
95	RS07A0	SPRING REW LEVER		1
96	RP40A0	PLATE PROGRAM		1

5. EXPLODED VIEW and PARTS LIST



AKF-9255 PART LIST for EXPLODED VIEW

NO.	PART CODE.	PART NAME
1	97T19015GD	HANDLE
2	97T1900910	HANDLE INNER
3	97T13337GD	KNOB ROTARY T
4	97T13217GD	KNOB ROTARY VR
5	97T13218GD	KNOB ROTARY F
6	97T14050GD	ESCUTCHEON
7	97T13314GD	KNOB TACT A
8	97T13313GD	KNOB TACT TUN
9	97T13316GD	KNOB TACT C
10	97T13315GD	KNOB TACT B
11	97T13316GD	KNOB TACT P
12	97T2207810	REFLECTION SW
13	97T2209710	REFLECTION VR
14	97T0909210	PLATE EARTH
15	97T9602410	SHEET LCD
16	97T9601410	SHEET LCD
17	97T2204710	REFLECTION LCD
18	97T3003411	SPRING DOOR
19	97T18033GD	DOOR CASSETTE
20	97T0613830	CHASSIS FRONT
21	97T0614000	CHASSIS SIDE R AS
22	97T4404200	HEAT SINK AS
23	97T2418930	BRACKET IC
24	97T0913510	PLATE INSULATION TOP
25	97T0414530	COVER TOP
26	97T0414730	CASE DETACHABLE
27	97T0913410	PLATE INSULATION BTM
28	97T0414630	COVER BOTTOM

NO.	PART CODE.	PART NAME
29	97T2603630	LEVER EJECT
30	97T2421430	BRACKET DECK
31	97T13295GD	KNOB PUSH EJ
32	97T13294GD	KNOB PUSH REW
33	97T13293GD	KNOB PUSH FF
34	97T600550	DECK MECHANISM SM-909N
35	97T0400380	CAP LAMP
36	97T4209410	CUSHION LAMP
E1	97T0L030NE	LCD
E2	97TC041300	PCB FRONT AS
E3	97TC041100	PCB POWER AS
E4	5V1503664A	VR ROTARY
E5	1KIA6210AH	IC POWER
E6	97T88107A0	CONN AS 18P SOCKET
E7	97T88107B0	CONN AS 18P PLUG
E8	97TC041000	PCB MAIN AS
S1	7173200611	SCREW TT2 BIN 2×6
S2	7175300611	SCREW TT2 FLT 3×6
S3	7173300611	SCREW TT2 BIN 3×6
S4	7003300411	SCREW BIN M3×4
S5	7001260311	SCREW PAN M2.6×3
S6	—	SCREW COLLAR M3
S7	7003301211	SCREW BIN M3×12
N1	—	NUT HEX 6N-1-6
N2	7391500011	NUT HEX 6N-1-5
B1	97T3100310	BOLT HEX 6B-1-5×20
W1	—	WASHER PLAIN PW-1-6

6. PARTS LIST OF BOARD

6-1 MAIN BOARD AS

LOC.	PART-CODE	PART-NAME	PART DESC
1000	97TC041000	PCB MAIN AS	AKF-9255CAV-S-D
BT501	C SUPER	5.5V 0.1F FZ	
B001	97T65282MA	PCB MAIN	(247×330×T1.6)/2 AKF-9255
CF101	W581GY5095	WIRE JUMPER	AWG22 1/0.65 SN 5 AUTO
CJ01	9766317710	JACK HEADPHONE	SHQ8935-01-440
CN01	97T88107A0	CONN AS	18P PCB TYPE SOCKET
CT501	5XA4R5000F	CRYSTAL QUARTZ	HC-18/U 4.500000MHz 50PPM
CW02	97T8813004	CONN AS	AWG28 4P 95MM
CW03	97T8813001	CONN AS	AWG24 8P 100MM
CW04	97T6208300	CONNECTOR HOUSING	00-8370-281-000-800
CW05	97T8813002	CONN AS	AWG26 70MM
CW07	97T8813003	CONN AS	AWG26 120/150MM
D101, 102	DKSS133---	DIODE	ISS133
D103, 104	DKTZ10B---	ZENER DIODE	MTZ-10
D105, 106	DKSS133---	DIODE	ISS133
D109, 301 302	DKSS133---	DIODE	ISS133
D304, 306	DKSS133---	DIODE	ISS133
D307, 310	DKSS133---	DIODE	ISS133
D501~504	DKSS133---	DIODE	ISS133
D519, 520	DKSS133---	DIODE	ISS133
D524	DKN4148---	DIODE	KN4148
D527, 530	DKSS133---	DIODE	ISS133
D532~538	DKSS133---	DIODE	ISS133
IC301	1LA3161---	IC TAPE EQ	LA-3161
IC304	1KIA78L005	IC REGULATOR	KIA78L005AP
IC501	IUPD171914	IC DTS	IUPA1719-014
L101	5LZ101K557	COIL INDUCTOR	LAL04TB-100K 100UH
Q101, 103	TZDTC143TL	TRBIAS	DTC143TL
Q104, 105	TZDTC143TL	TRBIAS	DTC143TL
Q106	TZTA1267Y-	TR	DTA1267Y
Q107	TZDTC143TL	TR BIAS	DTC143TL

LOC.	PART-CODE	PART-NAME	PART DESC
Q108	TZ2SD1862R	TR	2SD1862R
Q109~111	TZTC3199Y	TR	KTC3199Y
Q305	TZDTA143EL	TR BIAS	DTA143EL
Q310, 311	TZTC3199Y-	TR	KTC3199Y
Q312	TZDTC143TL	TR BIAS	DTC143TL
Q501~504	TZDTC125TL	TR BIAS	DTC125TL
RV101, 102	W581GY1005	W1RZ JUMPER	AWG22 10MM
TC501	CKSLIH150J	C CERA	SL50V 15PF J
TU101	97T7600800	TUNER FM CAR STEREO	KCF-204V K.E.C
VR301, 302	5V1503674A	UR ROTARY	V9M(6×5)G(PH2R) 50K×2 15A

6-2 TUNER BOARD AS

AKF-9255

LOC.	PART-CODE	PART-NAME	PART DESC
12000	97TC040600	PCB TUNER AS	U.S.A AREA
B004	97T65271MD	PCB TUNER	(110×180×T1.6)/6
CW01	97T6208019	CONNECTOR WAFER	YF200A2-19
D01	DISU 234--A	DIODE CHIP	ISV 234
IC101	1LA1875M--	IC AUDIO ONE CHIP	LA1875M
Q01	TZSK927S--	FET	2SK427S
Q03, 04	TZTC31999-	TR	KTC-3199Y
Q05, 06	TZRC114M--	TR	KRC114M
RV01, 03	RU147104	R SEMI FIXED	100KB OHM B
TC01~03	97576501G0	TRIMMER	TZ03R200FR
T01	5LR224K744	COIL RF	191×0.07 7.5. 224UH K
T02	5LK224K745	COIL RF	97×0.07 7.5 224UH K
T03	5L0121K746	COIL OSC	120×0.08 7.5 120UH K
T04	5107AYW449	IFT AM	A7MC-K5716N-KR YW
T05	5107FBL450	IFT FM	292MEA-K5488E BL
VD01~0.3	DKV1235Z--	DIODE VARACTOR	KV 1235Z
Z01	5PSFP450H-	FILTER CERA	SFP-450H
Z02	5PE107HS2A	FILTER CERA	SFE107MS2-A
Z03	5PB456F23-	FILTER MECA	CSB456F23

6-3 POWER BOARD AS

AKF-9255

LOC.	PART-CODE	PART-NAME	PART DESC
11000	97TC041100	PCB POWER AS	AKF-9255CAV-S-D
B002	97T65282PW	PCB POWER	147×56×T1.6 AKF-9255
CN01	97T88107A0	CONN AS	AWG24 8P 100mm
CN03	97T8813001	CONN AS	AWG24 8P 100mm
D401, 402	DKN4002A--	DIODE	KN4002A
IC401	1K1A6210AH	IC POWER	KIA 6210AH
Q401, 402	TZDTC323TL	TR	DTC323TL
T401	5LC102P226	COIL CHOKE	EI-24MM 1MH
VR401	5V1503664A	VR ROTARY	RK16525Z1-5N1211 50KA×2

6-4 FRONT BOARD AS

LOC.	PART-CODE	PART-NAME	PART DESC
1300	97TC041300	PCB FRONT AS	AKF-9255CAV-S-D
B003	97T65283FR	PCB FRONT	(155×163×T1.6)/4 AKF-925)
CN04	97T6208200	CONNECTOR FFC	BNCDP-1.25-M-28-80(S=3)
CN05	97T8813002	CONN AS	AWG 26 70MM
D505~ D518	DKSS133---	DIODE	ISS133
LA502~ 506	97T82008BO	LAMP PILOT	14V 60MA D3.0
LCD	97TOL030NE	LCD	HDL7342NEEA 38×33×289T
SWBD	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWDW	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWLD	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWLX	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWME	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWM1~ SWM6	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWPS	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWSC	5S50101275	SW TACT	K-1P KPT-1107B 200G WH
SWUP	5S50101275	SW TACT	K-1P KPT-1107B 200G WH

6-4 DECK AS

LOC.	PART-CODE	PART-NAME	PART DESC
3000	97TM023900	DECK AS	AKF-9251CAV
CN02	97T8813004	CONN AS	AWG28 4P 95MM
CN07	97T8813003	CONN AS	AWG26 120/150MM
W001	W1498K3003	WIRE LEAD	AWG30 7/0.10 BK 3-30-3
W002	W149BK5003	WIRE LEAD	AWG30 7/0.10 BK 3-50-3
W003	W149BL5003	WIRE LEAD 1007	AWG30 7/0.1 BL 3-50-3
W004	W149YW5003	WIRE LEAD	AWG30 7/0.1 YW 3-50-3
W005	W149WH5003	WIRE LEAD	AWG30 7/0.1 WH 3-50-3
W006	W149PK5003	WIRE LEAD	SWG30 7/0.1 PK 3-50-3
00010	97T6006100	DECK MECHANISM	SM-909P

7. FUNCTION OF IC

• UPD1719G-011 (014)

• Key Matrix Table

Input Pin / Output Pin	K3 (59)	K2 (60)	K1 (61)	K0 (62)
40	M1 (TP1)	M2 (TP2)	M3 (TP3)	M4
41	M5	M6	–	–
42	–	–	–	SCAN UP
43	BAND	–	–	–
44	ME (DISP)	MAN DWN	MAN UP	PSCAN AMEMO
45	LOUD	LOC. (TP4)	MONO (TP5)	–
46	AMS DOLBY	MTL	–	
47	–	–	–	DISP (RCL)
48	–	TP SET	RD SET	–
49	–	–	FF RL	

• Diode Matrix Table

Input Pin / Output Pin	K3 (59)	K2 (60)	K1 (61)	K0 (62)
50	AUTO 500	MUTE SEL	AUTO STP	ENNR 2
51	KAMS	KNR	KMTL	ENTRK
52	NOCLK	CLK DISP	FLASH	DIS AMEMO
53	ENFMIF	DIS AMIF	PR 102	PR 101
54	DIS FM3	ENMW 2	DISLW	M2S
55	AREA 3	AREA 2	AREA 1	ROON

1. Band Selector

When (BAND) key is depressed, the reception band changes in sequence as shown below for each depression or for each request:

• FM1→FM2→FM3→MW1(AM1)→MW2(AM2): In case of AKF-9255

2. Scan Tuning

SCAN A momentary depression causes automatic station-to-station search.

3. Manual Tuning

A) UP, DOWN A momentary depression will tune to next channel, and continuous depression more than 0.5 second allows traversing up or down the entire band until the key is released.

4. Preset Memory

A)ME The tuning information is stored into the internal RAM by depressing ME key and then the desired memory key (M1 to M6) within 5 seconds from the time ME key was initially depressed. If any other key is depressed in this period, the ME function is canceiled.

B) M1 to M6 Six favorite stations can be recalled from internal RAM for each band. When it is switched from one band to the other, it will tune to "last-tuned-to station" on that band.
Each time a station is changed, the controller provides a signal to mute the radio.

5. DIODE MATRIX DESCRIPTIONS

SYMBOL	DESCRIPTION
AREA 1 (D532) AREA 2 (D532) AREA 3 (D532)	Switches used to set reception areas. The reception areas are set as shown below. For scanning frequency ranges in specific areas.

AREA 3 (D424)	ARE 2 (D423)	AREA 1 (D422)	AREA
0	0	0	Europe 1
0	0	1	Europe 2
0	1	0	U.S.A. 1
0	1	1	U.S.A. 2
1	0	0	U.S.A. 3
1	0	1	Australia, and Middle and Near East
1	1	0	Japan
1	1	1	Central and South America

* Receiving frequency, Channel spacing, Intermediate frequency

AREA / BAND / ITEM		RECEIVING FREQUENCY	CHANNEL SPACING	INTERMEDIATE FREQUENCY
Europe 1	FM	87.000 to 108.00MHz	50kHz	10.7MHz
	MW	522 to 1620kHz	9kHz	450kHz
	LW	144 to 281kHz	1kHz	450kHz
U.S.A. 1	FM	87.5 to 108.0MHz	100kHz	10.7MHz
	MW	530 to 1620kHz	10kHz	450kHz
U.S.A. 2	FM	87.5 to 107.9MHz	200kHz	10.7MHz
	MW	530 to 1620kHz	10kHz	450kHz
U.S.A. 3	FM	87.5 to 107.9	200kHz	10.7MHz
	MW	530 to 1710kHz	10kHz	450kHz
Australia and Middle eand Near east	FM	87.5 to 108.0MHz	100kHz	10.7MHz
	MW	531 to 1602kHz	9kHz	450kHz
Japan	FM	76.0 to 90.0MHzz	100kHz	– 10.7kHz
	MW	522 to 1629kHz	9kHz	450kHz
Latin America	FM	87.5 to 108.0MHz	100kHz	10.7MHz
	MW	520 to 1620kHz	5kHz	450kHz

<table>
<tr><th>SYMBOL</th><th>DESCRIPTION</th></tr>
<tr><td>DISFM 3
ENMW 2 (D530)
DISLW</td><td>Switches used to set reception bands.
The switches have the following functions.
• DISFM 3:'1' disables the FM3 band.
• ENMW 2:'1' enables the MW2 band.
• DISLW :'1' disables the LW band in Europe.
The DISLW switch is invalid in areas other than Europe.

These switches set the reception bands in the following ways:

<table>
<tr><th>Area</th><th>DISFM 3</th><th>ENMW 2</th><th>DISLW</th><th>Reception band</th></tr>
<tr><td rowspan="6">Europe 1</td><td>0</td><td>0</td><td>0</td><td>FM1, FM2, FM3, MW, LW</td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>FM1, FM2, FM3, MW1</td></tr>
<tr><td>0</td><td>1</td><td>–</td><td>FM1, FM2, FM3, MW1, MW2</td></tr>
<tr><td>1</td><td>0</td><td>0</td><td>FM1, FM2, MW, LW</td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>FM1, FM2, MW1</td></tr>
<tr><td>1</td><td>1</td><td>–</td><td>FM1, FM2, MW1, MW2</td></tr>
<tr><td rowspan="4">Other areas</td><td>0</td><td>0</td><td>–</td><td>FM1, FM2, FM3, MW1</td></tr>
<tr><td>0</td><td>1</td><td>–</td><td>FM1, FM2, FM3, MW1, MW2</td></tr>
<tr><td>1</td><td>0</td><td>–</td><td>FM1, FM2, MW1</td></tr>
<tr><td>1</td><td>1</td><td>–</td><td>FM1, FM2, MW1, MW2</td></tr>
</table>

–: Don't care</td></tr>
<tr><td>M2S</td><td>Switch used to set the method of writing to preset memory.
The switch sets the method as follows:

<table>
<tr><th>M2S</th><th>Writing method</th></tr>
<tr><td>0</td><td>Write by pressing [M1 (TP1)] to [M6] key during the 5-second memory write period enabled with [ME]</td></tr>
<tr><td>1</td><td>Write by pressing [M1 (TP1)] to [M6] key for 2 seconds or longer.
[ME] key is invalid:</td></tr>
</table>

For further information, see the descriptions of [ME] and [M1 (TP1)] to [M6] keys.</td></tr>
<tr><td>AUTO 500
(D519)</td><td>Switch used to set the functions of [MAN UP] and [MAN DWN] keys.
This switch enables the [MAN UP] and [MAN DWN] keys to work as auto-tuning (seek) keys.
This switch sets the [MAN UP] and [MAN DWN] key functions as follows:

<table>
<tr><th>AUTO 500</th><th>[MAN UP] and [MAN DWN] key functions</th></tr>
<tr><td>0</td><td>Manual tuning only. Frequency is incremented or decremented by one channel each time the switch is pressed. Tuning is manually fast-forward when it is held pressed for 0.5 seconds or longer.</td></tr>
<tr><td>1</td><td>Manual tuning and auto-tuning. Frequency is incremented or decremented by one channel each time the switch is pressed. Automatic tuning (seek) begins with the next channel when the key is pressed for 0.5 seconds or longer.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>SYMBOL</th><th>DESCRIPTION</th></tr>
<tr><td>PR101
PR102

PR101
PR102</td><td>Switches used to set a priority display, which recalls its original display if no actiion is taken within 5 seconds after the display is selected.
Priority display is set as shown below.

<table>
<tr><th>PR101 (D417)</th><th>PR102</th><th>Priority display</th><th>Description</th></tr>
<tr><td>0</td><td>0</td><td>None</td><td>The display is switched by the activation of [DISP] key and station selection keys (clock on display).
• In the radio mode
the frequency and clock displays appear alternately each time [DISP] key is pressed.
The frequency display appears when a station selection key is pressed while the clock is on display.
• In the tape mode
[DISP] key is invalid.</td></tr>
<tr><td>1</td><td>0</td><td>Frequency</td><td>the original display is recalled if no actiion is taken within 5 seconds after the frequency or '' '' display are switched to the clock display with [DISP] key.
• In the radio mode
This display normally shows a frequency. It is switched to the clock display for 5 seconds each time [DISP] key is pressed.
The display returns to show the frequency when [DISP] key is pressed or a station selection key is pressed again during the 5-second interval.
• In the tape mode
Clock display appears. ([DISP] key is invalid.)</td></tr>
<tr><td>0</td><td>1</td><td>Clock</td><td>The clock display has priority when in the radio and CD modes.
• In the radio mode
The display normally shows the clock. It is switched to the frequency display for 5 seconds each time [DISP] or a station selection key is pressed.
The display returns to show the clock when [DISP] key is pressed again during the 5-second interval.
• In the tape mode
[DISP] key is invalid.</td></tr>
<tr><td>1</td><td>1</td><td>–</td><td>Inhibited</td></tr>
</table>

In the table above, the frequency display refers to the scanning frequency range, reception band, and preset memory display.
Accordingly, even if the display is switched to the clock while receiving a radio frequency, the PSCAN, VF, SK, ST, MONO, LOCAL and LOUD indicators can light.
In the tape mode as well, the LOUD, METAL, , AMS, ''◁'' and. ''▷'' indicators can light even when the clock is on display.</td></tr>
</table>

<table>
<tr><th>SYMBOL</th><th>DESCRIPTION</th></tr>
<tr><td>ENTPK
KAMS KNR
KMTL</td><td>The five keys, [M1 (TP1)] to [M3 (TP3)], [LOC (TP4)] and [MONO (TP5)] can be shared as tape function keys. The choice of the functions to be shared is determined by the ENTPK, KAMS, KNR and KMTL switches.
<table>
<tr><th>ENTPK</th><th>KAMS (0415)</th><th>KNR (0414)</th><th>KMTL (0413)</th><th>M1 (TP1)</th><th>M2 (TP2)</th><th>T3 (TP3)</th><th>LOC (TP4)</th><th>MONO (TP5)</th></tr>
<tr><td rowspan="8">0</td><td>1</td><td>1</td><td>1</td><td>AMS</td><td></td><td>MTL</td><td></td><td></td></tr>
<tr><td>1</td><td>1</td><td>0</td><td>AMS</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1</td><td>0</td><td>1</td><td>AMS</td><td>MTL</td><td></td><td></td><td></td></tr>
<tr><td>1</td><td>0</td><td>0</td><td>AMS</td><td></td><td></td><td></td><td></td></tr>
<tr><td>0</td><td>1</td><td>1</td><td></td><td>MTL</td><td></td><td></td><td></td></tr>
<tr><td>0</td><td>1</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>0</td><td>0</td><td>1</td><td>MTL</td><td></td><td></td><td></td><td></td></tr>
<tr><td>0</td><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td rowspan="8">1</td><td>1</td><td>1</td><td>1</td><td>←Inhibited</td><td></td><td></td><td></td><td></td></tr>
<tr><td>1</td><td>1</td><td>0</td><td></td><td></td><td></td><td>AMS</td><td></td></tr>
<tr><td>1</td><td>0</td><td>1</td><td></td><td></td><td></td><td>AMS</td><td>MTL</td></tr>
<tr><td>1</td><td>0</td><td>0</td><td></td><td></td><td></td><td>AMS</td><td></td></tr>
<tr><td>0</td><td>1</td><td>1</td><td></td><td></td><td></td><td></td><td>MTL</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>0</td><td>0</td><td>1</td><td></td><td></td><td></td><td>MTL</td><td></td></tr>
<tr><td>0</td><td>0</td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table></td></tr>
<tr><td>NOCLK (D524)</td><td>Switch used to set the availability of a clock. The switch sets the clock availability as follows:
<table>
<tr><th>NOCLK</th><th>Clock availability</th></tr>
<tr><td>0</td><td>Yes</td></tr>
<tr><td>1</td><td>No</td></tr>
</table>
In the no-clock mode, an input low on the CE pin enables data backup with low-power dissipation (400nA. MAX.)</td></tr>
<tr><td>CLKDISP</td><td>Switich used to set the clock hour system.
It sets the hour system as follows:
<table>
<tr><th>CLKDISP</th><th>Hour system</th></tr>
<tr><td>0</td><td>12-hour system
AM 11:59→PM 12:00
AM 12:00←PM 11:59</td></tr>
<tr><td>1</td><td>24-hour system
23:59→0:00</td></tr>
</table></td></tr>
<tr><td>FLASH</td><td>Switch used to set the colon (:) indicator in the clock display. It sets the colon indicator as follows:
<table>
<tr><th>FLASH</th><th>Colon (:) indicator</th></tr>
<tr><td>0</td><td>Normally lit</td></tr>
<tr><td>1</td><td>Flashing
Frequency: 1Hz
Duty: 6 (on), 4 (off)</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>SYMBOL</th><th>DESCRIPTION</th></tr>
<tr><td>ENFMIF (D530)
DISAMIF (D527)</td><td>Switch used to set the station detection method of follows:
<table>
<tr><th>ENFMIF (0419)</th><th>DISAMIF (0418)</th><th>BAND</th><th>Station detection method</th></tr>
<tr><td rowspan="2">1</td><td rowspan="2">0</td><td>FM</td><td>If counter and SD method</td></tr>
<tr><td>MW, LW</td><td>If counter and SD method</td></tr>
<tr><td rowspan="2">1</td><td rowspan="2">1</td><td>FM</td><td>If counter and SD method</td></tr>
<tr><td>MW, LW</td><td>SD method</td></tr>
<tr><td rowspan="2">0</td><td rowspan="2">0</td><td>FM</td><td>SD method</td></tr>
<tr><td>MW, LW</td><td>If counter and SD method</td></tr>
<tr><td rowspan="2">0</td><td rowspan="2">1</td><td>FM</td><td>SD method</td></tr>
<tr><td>MW, LW</td><td>SD method</td></tr>
</table></td></tr>
<tr><td>DISAMEMO</td><td>Switch used to prohibit the auto-preset-memory function.
The switch setting as follows:
<table>
<tr><th>DISAMEMO</th><th>Description</th></tr>
<tr><td>0</td><td>Auto-preset-memory function is enabled.
Auto-preset-memory operation starts if [PSCAN AMEMO] key is pressed for 2-second or longer.</td></tr>
<tr><td>1</td><td>Auto-preset-memory function is disabled.
[PSCAN AMEMO] key is only for preset-scan-function.</td></tr>
</table></td></tr>
<tr><td>[PSCAN AMEMO]</td><td>Preset-memory and auto-store-memory key.
Auto-store-memory function is valid when the initialization diode switch DISAMEMO is ''O''.
Press this key to use auto—store-memory function when DISAMEMO = 0.
If the key is released within 2 seconds, preset-memory-scan operation starts.
If the key is pressed for more than 2 seconds, auto-store-memory operation starts.
When auto-store-memory function is not used, (DISAMEM = 1), if the key is presed, preset memory scan operates.
Preset-memory-scan and auto-store-memory operate as follows.

(1) Preset-memory-scan operation
The contents of preset memories are called for 5 seconds each automatically. The preset memories' contents are called in sequence, beginning with M1 if something other than preset memory is being received when this key is pressed, or beginning with the preset memory is being received when this key is pressed, or beginning with the preset memory next to the one being received (for example, beginning with M4 if M3 is being received). This operation is described below in further detail.

(Example) When FM1 is received.
FM1

M1→M2→M3→M4→M5→M6

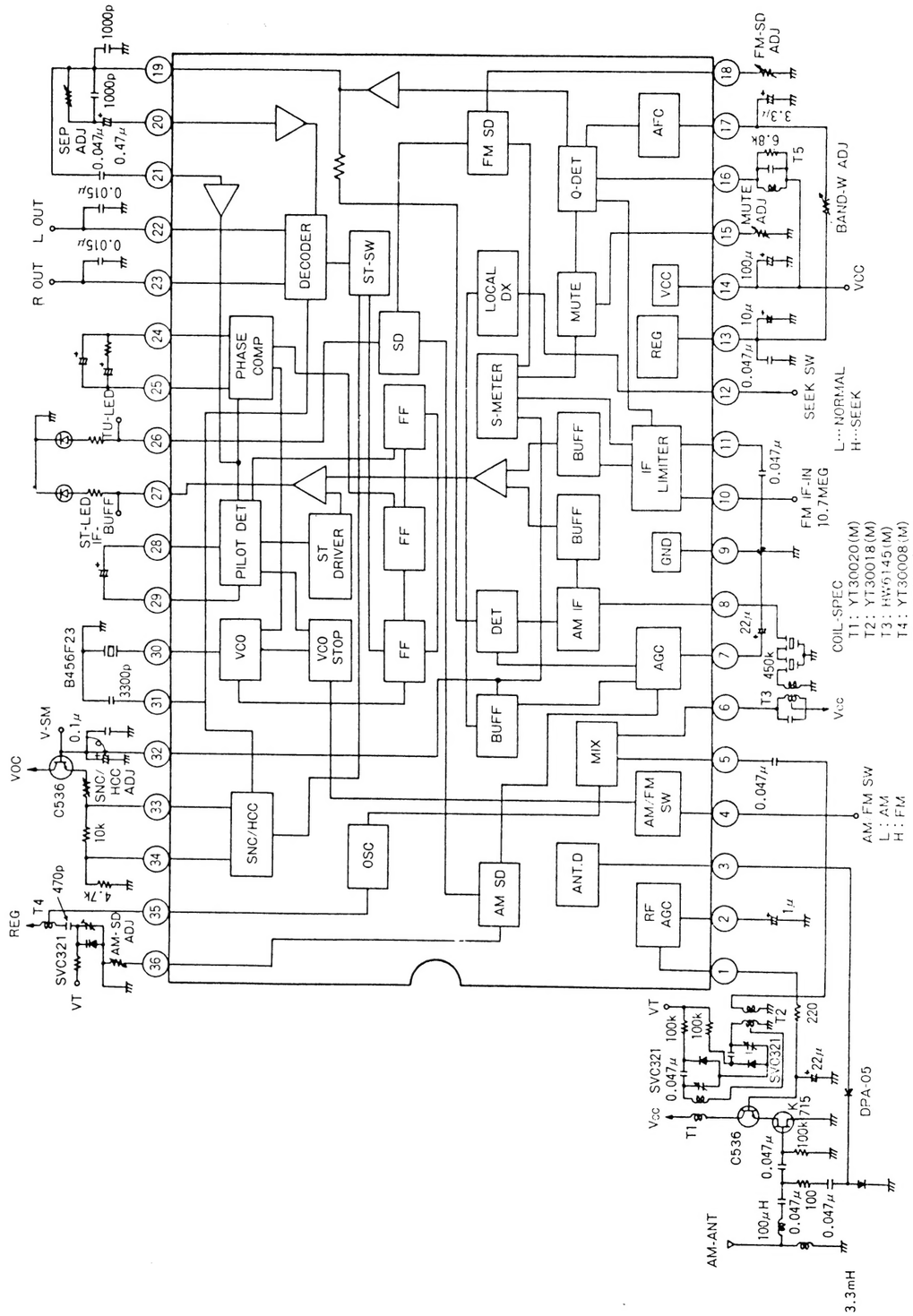
Something other than a preset memory is being received on the FM1 band.
M3 is being received on the FM1 band.

The operations on the MW and (MW1, MW2) and LW band are same as on the FM band.</td></tr>
</table>

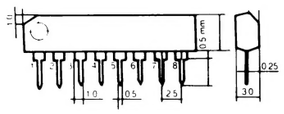
7. ALTERNATE OR TRANSISTOR SWITCHES

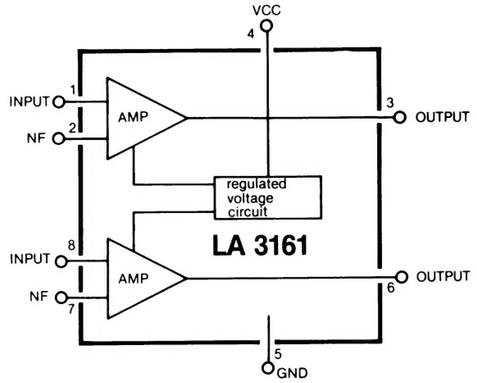
SYMBOL	DESCRIPTION
TPSET (Q502)	Switch used to set the tape mode. Valid only when the CE pin is high. The tape mode can be set by turning on this switch while the CDSET switch is off. For further information, see the 2. MODE TRANSITIION section.
RDSET (Q501)	Switch used to set the radio mode. Valid only when the CD pin is high. the radio mode can be set by turning on this switch while both the CDSET and TPSET switches are off. Fro further information, see the 2. MODE TRANSITION section. The RDON switch (diode switch) must be set to "O" when this switch is used. [RADIO] key must not be used either.
ST	Switch used to enable "ST" (stereo) display when in the radio mode. "ST" display on the LCD panel lights by turning on this switch.
FF	Fast forward signal input switch when in the tape mode. This switch turns on the tape transport direction indicator (◁ ▷) depending on the RL switch status in the following ways: FF / RL / indicator 0 / 0 / ◀ ▷ 0 / 1 / ◁ ▶ 1 / 0 / ◁ ▷ 1 / 1 / ◁ ▷ ▷: off, ▶: on, ▷: flashing (2Hz) 0: OFF, 1: ON
RL (Q504)	Tape transport direction signal input switch when in the tape mode. This switch turns on the tape transport direction indicator (◁ ▷) depending on the FF switch status. For the indicator status, see the tape for FF switch.
[M1 (TP1)] [M2 (TP2)] [M3 (TP3)] [M4] [M5] [M6]	The device, when powered on, comes up with M1 to M6 being loaded with the following frequencies to facilitate set adjustment: Preset memory number / Band / Area / M1 / M2 / M3 / M4 / M5 / M6 Europe 1, Europe 2 / FM1 / 98.5 / 87.7 / 92.3 / 96.3 / 105.9 / 98.5 Europe 1, Europe 2 / MW1 / 522 / 603 / 954 / 1386 / 522 / 522 Europe 1, Europe 2 / MW2 / 522 / 621 / 1098 / 1530 / 522 / 522 Europe 1, Europe 2 / LW / 144 / 155 / 208 / 256 / 144 / 144 U.S.A. 1, U.S.A. 2, U.S.A. 3 / FM1 / 87.5 / 87.9 / 98.1 / 105.1 / 87.5 / 87.5 U.S.A. 1, U.S.A. 2, U.S.A. 3 / MW1 / 530 / 620 / 1010 / 1490 / 530 / 530 Australia, and Near and Middle East / FM1 / 87.5 / 87.9 / 97.1 / 105.1 / 87.5 / 87.5 Australia, and Near and Middle East / MW1 / 531 / 612 / 963 / 1395 / 531 / 531 Japan / FM1 / 76.0 / 76.4 / 85.6 / 76.0 / 76.0 / 76.0 Japan / MW1 / 522 / 603 / 954 / 1386 / 522 / 522 Central South America / FM1 / 87.5 / 87.9 / 97.1 / 105.1 / 87.5 / 87.5 Central South America / MW1 / 520 / 565 / 760 / 1000 / 1400 / 520 M1 to M6 on the FM2, and VF bands, and MW2 band in except Europe 1 and Europe 2 are loaded with the lowest frequencies in effect in each area. • In the tape mode The initialization diode switches, ENTPK, KAMS, KMTL enable the M1 (TP1) to M6 keys to function as tape function keys. For the keys that can be shared, see the diode matrix description. For the key operations, see the description of [AMS], [NR], and [MEL] keys.

• LA1875M (AM/FM IF + MPX)

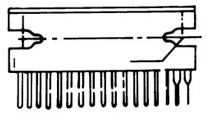


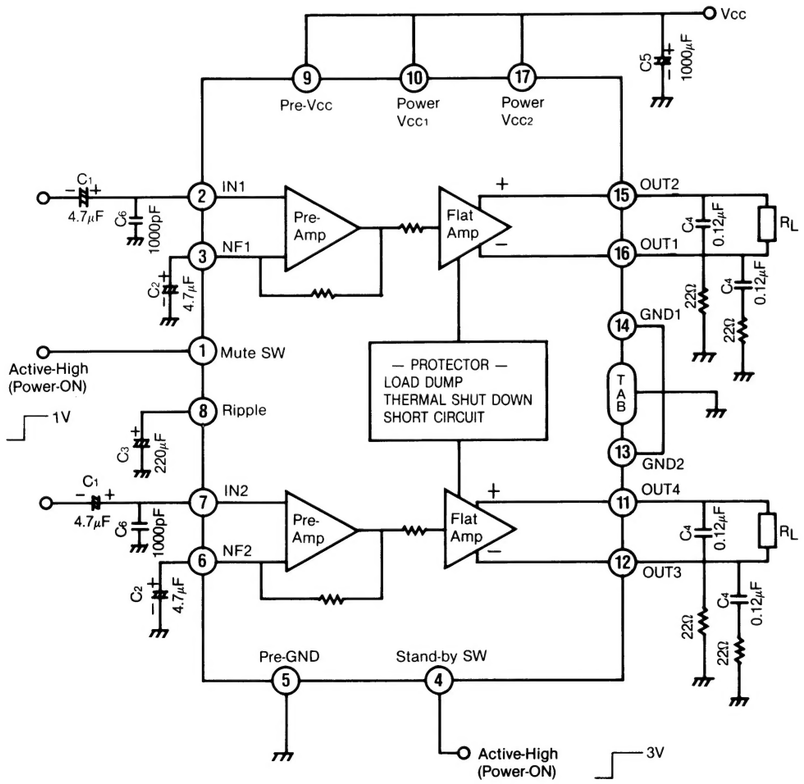
• **LA3161 (Tape Pre-Amp.)**





• **KIA6210AH (Power Amp)**

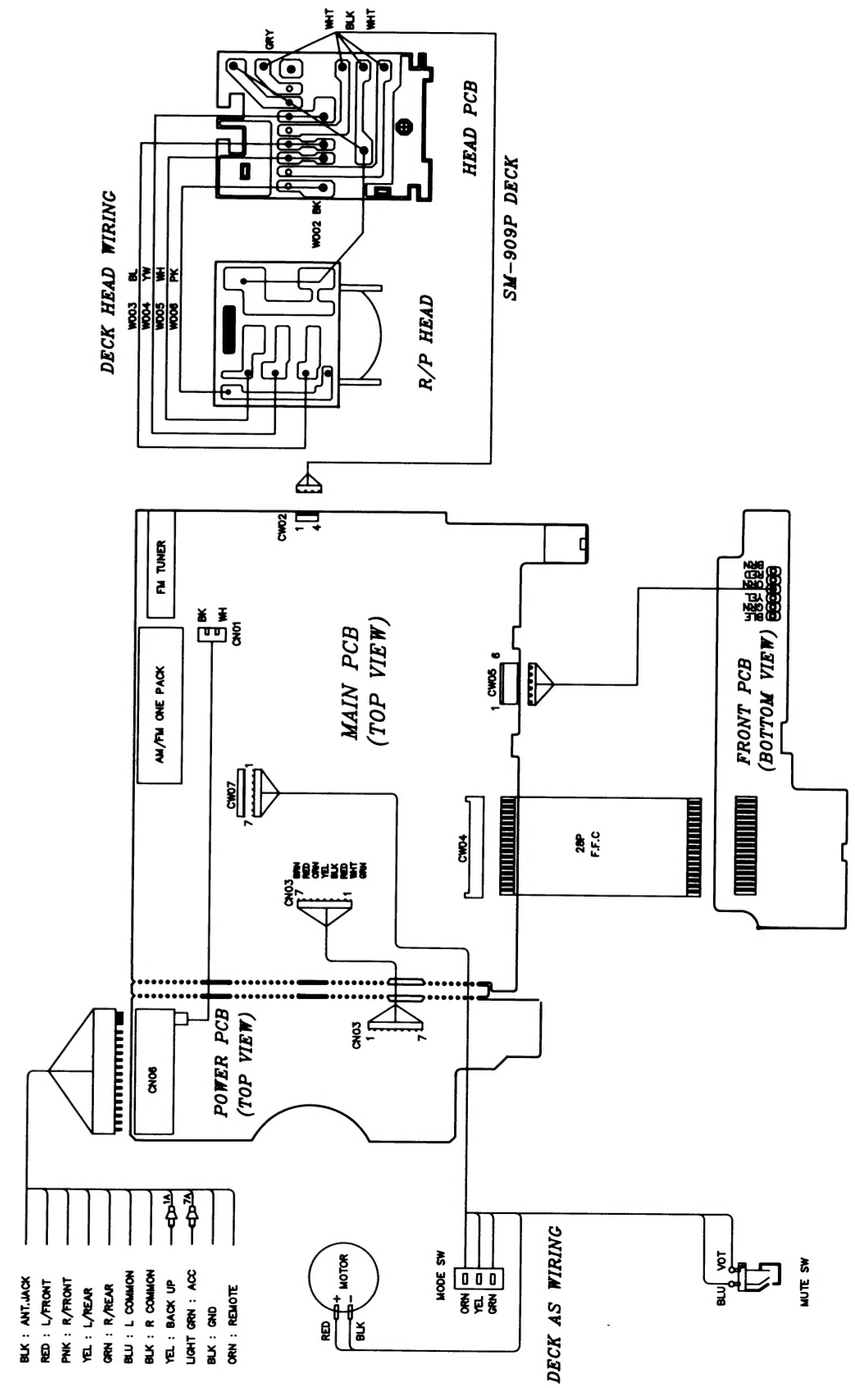
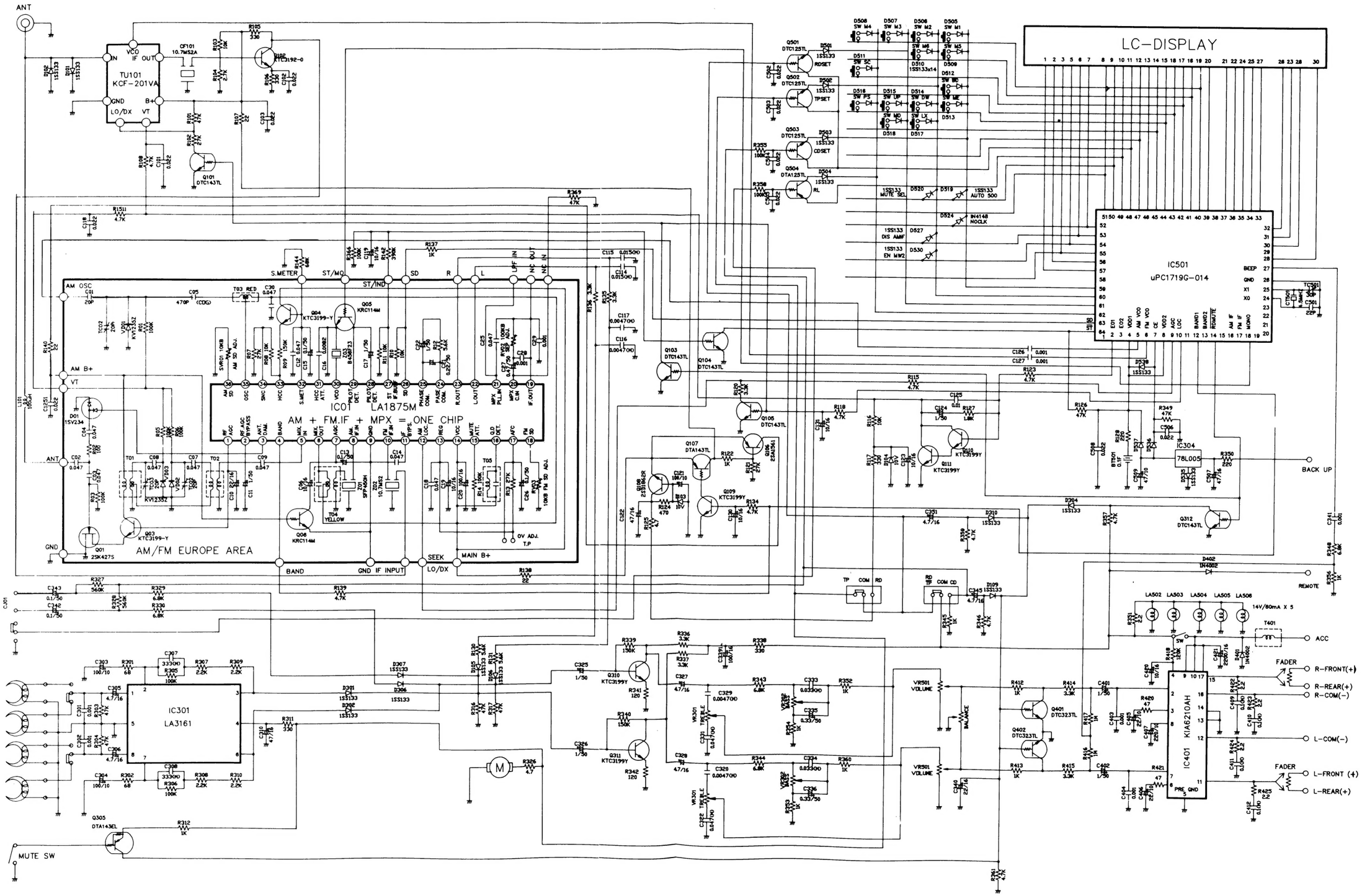




8. OVERALL WIRING DIAGRAM

8-1. AKF-9255

AKF-9255 WIRING DIAGRAM



9. AKF-9255EV-INTE SCHEMATIC DIAGRAM